UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,830	10/18/2001	Jun Tian	P0468	1787

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DIGIMARC CORPORATION
9405 SW GEMINI DRIVE
BEAVERTON, OR 97008

EXAMINER
PERUNGAVOOR, VENKATANARAY

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 December 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1 and 3-39</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,3-39</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 December 2005</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. The Applicant's arguments regarding Claim 1 is not persuasive. As Kondo discloses the compressing of signal see Col 6 Ln 65- Col 7 Ln 9 & Col 7 Ln 14-29 & Col 9 Ln 31-51.

2. The Applicant's arguments regarding Claim 3 is not persuasive. As Kondo discloses the embedding sorting order and determining sorting order and modulating the order of blocks as necessary to match symbol to be embedded see Col 13 Ln 11-34 & Col 13 Ln 46-60.

3. The Applicant's arguments regarding Claim 30 is not persuasive. As Kondo discloses the embedding process see Fig. 1 item 3 & Col 3 Ln 5-35. And further, Kondo discloses the compressing first signal and embedding of redundant instances see Col 6 Ln 65- Col 7 Ln 29 & Col 8 Ln 4-23.

4. The Applicant's arguments regarding Claim 37 is not persuasive. As Kondo discloses the embedding according to a permutation see Col 8 Ln 49-67 & Col 8 Ln 4-17.

5. The Applicant's arguments regarding Claim 5 is not persuasive. As Bhaskaran discloses the decompressing version being perceptually similar to host signal see Col 5 Ln 5-9 & Col 5 Ln 58-61.

6. The Applicant's arguments regarding Claim 6 is not persuasive. As Bhaskaran discloses the use of zig-zag order to block of samples see Col 5 Ln 37-41 & Col 5 Ln 61-65.

7. The Applicant's arguments regarding Claim 9 is not persuasive. As Bhaskaran discloses the authenticating of host signal with another block of host signal see Col 3 Ln 18-34, where Bhaskaran discloses the hash value computed from last block being a multiple of the entire image and also the LSB of highest frequency coefficient in that block to be used in watermark.

8. The Applicant's arguments regarding Claim 10 is not persuasive. As Bhaskaran discloses the lossless compression see Col 4 Ln 20-26 & Col 2 Ln 63-Col 3 Ln 11. And further, Bhaskaran merely mentions that JPEG compression may be used but does not explicitly restrict that only to JPEG compression see Col 8 Ln 11-15 & Col 8 Ln 50-55.

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

10. Claim 1,3-4, 30, 34-37 rejected under 35 U.S.C. 102(e) as being anticipated by

    U.S. Patent 6,215,421 B1 to Kondo et al.(hereinafter Kondo).

11. Regarding Claim 1, Kondo discloses the compressing the first media and

    embedding the first media into a second media signal see Abstract & Col 1 Ln

    41-53; Kondo discloses the first data being related to second data see Col 1 Ln

    41-53. And further see arguments above pertaining to Claim 1.

12. Regarding Claim 3, Kondo discloses the embedding of sorting order, determining

    the sort order by bit sequence, modulating the sorting order to match the sorting

    order associated with the symbol embedded see Col 1 54- Col 2 Ln 3 & Col 16

    Ln 18-35. And see arguments above pertaining to Claim 3 above.

13. Claim 4 is rejected under the same rationale as Claim 1 above.

14. Regarding Claim 30, Kondo discloses the dividing the signals into blocks(see

    Fig.14 item S12), partitioning the signal into regions(see item S13), compressing

    the signal and embedding the redundant instances into a second region(see Col

    3 Ln 10-34 & Col 7 Ln 14-30). And see argument pertaining to Claim 30 above.

15. Claim 34 is rejected under the same rationale as Claim 1 above.

16. Regarding Claim 35, Kondo discloses the lowest order bits being used see Col 9
Ln 31-44.

17. Regarding Claim 36, Kondo discloses the use of key see Col 7 Ln 30-44.

18. Regarding Claim 37, Kondo discloses the permutations see Col 9 Ln 52-57.

19. Claim 5-11, 13-29 are rejected under 35 U.S.C. 102(e) as being anticipated by
U.S. Patent 6,064,764 to Bhaskaran et al.(hereinafter Bhaskaran).

20. Regarding Claim 5, Bhaskaran discloses the decoding an auxiliary signal which
has been compressed and decompressing it see Fig. 2 item 102 & Col 6 Ln 25-
27 and use it to authenticate the signal see Col 6 Ln 45-58.(as decoding involves
decompressing a JPEG image); decompressing version being perceptually
similar to host signal see Col 5 Ln 5-9 & Col 5 Ln 58-61.

21. Regarding Claim 6, Bhaskaran discloses the decoding an auxiliary signal which
has been compressed and decompressing it see Fig. 2 item 102 & Col 6 Ln 25-
27 and use it to authenticate the signal see Col 6 Ln 45-58.(as decoding involves
decompressing a JPEG image); decompressing version being perceptually

similar to host signal see Col 5 Ln 5-9 & Col 5 Ln 58-61; the decoder analyzing

the sorting order and look up symbol according to sorting order see Col 5 Ln 47-

65.

22. Claim 7 is rejected along the same rationale as Claim 5 above and also see Col

7 Ln 64-66.

23. Regarding Claim 8, Bhaskaran discloses the decoding being performed on

blocks on host see Col 4 Ln 10-16 & Col 5 Ln 5-19.

24. Regarding Claim 9, Bhaskaran discloses the decoding an auxiliary signal which

has been compressed and decompressing it see Fig. 2 item 102 & Col 6 Ln 25-

27 and use it to authenticate the signal see Col 6 Ln 45-58.(as decoding involves

decompressing a JPEG image); decompressing version being perceptually

similar to host signal see Col 5 Ln 5-9 & Col 5 Ln 58-61; the decoded blocks

being used to authenticate host see Col 6 Ln 45-67. And see arguments above

pertaining to Claim 9.

25. Regarding Claim 10, Bhaskaran discloses the selecting of blocks and

compressing them and embedding the compressed blocks in one of the select

blocks and further hashing the embedded compressed blocks to create a

watermarked content see Col 5 Ln 5-46. And see arguments pertaining to Claim

10 above.

26. Regarding Claim 11, Bhaskaran discloses an JPEG image see Col 5 Ln 47-51.

27. Claim 13 is rejected along the same lines as Claim 10 above and also see Col 7

Ln 64-66.

28. Regarding Claim 14, Bhaskaran discloses the decoding of content and

comparing the hash watermarked content for verify authenticity see Col 6 Ln 41-

66.

29. Regarding Claim 15, Bhaskaran discloses the un-watermarking of data to extract

compressed content see 4 Ln 26-34.

30. Claim 16 is rejected along the same lines as Claim 14 above and also see Col 7

Ln 64-66.

31. Regarding Claim 17, Bhaskaran discloses the adding of watermark message to

a image signal(changing the 63rd bit from zero to nonzero value) see Col 5 Ln 12-

19, the subtracting of image signal the watermark message see Col 5 Ln 34-36,

the adding of the difference signal see Col 5 Ln 51-56, and decoding of the

information from the watermarked image through subtracting the difference

signal from the watermarked image see Col 6 Ln 20-35.

32. Regarding Claim 18, Bhaskaran discloses the computing of hash signal and

including the message and information about the embedder function see Col 6

Ln 38-48.

33. Regarding Claim 19, Bhaskaran discloses the embedder function being an 63rd

bit because of it always non-zero thus reducing the compression size see Col 5

Ln 14-23.

34. Regarding Claim 20, Bhaskaran discloses the signal being an still image see Col

5 Ln 47-51.

35. Regarding Claim 21 and 22, 26, Bhaskaran discloses the signal being an near

uniform and further the comprising RGB see Col 5 Ln 5-15.

36. Claim 23 is rejected along the same lines as Claim 17 above and also see Col 7

Ln 64-66.

37. Regarding Claim 24, Bhaskaran discloses the decoding of watermark message

and updating of hash of the new signal and subtracting the signal to get un-

watermarked signal and computing a new hash and comparing to determine

authenticity see Col 6 Ln 17-58 & Fig. 2 items 102-109.

38. Regarding Claim 25, Bhaskaran discloses the extracting of watermark signals

from a watermarked image see Col 6 Ln 33-37.

39. Claim 27 is rejected along the same lines as Claim 24 above and also see Col 7

Ln 64-66.

40. Regarding Claim 28, Bhaskaran discloses the adding of watermark message to

a image signal(changing the 63rd bit from zero to nonzero value) see Col 5 Ln 12-

19, the subtracting of image signal the watermark message see Col 5 Ln 34-36,

the adding of the difference signal see Col 5 Ln 51-56, and decoding of the

information from the watermarked image through subtracting the difference

signal from the watermarked image see Col 6 Ln 20-35.

41. Claim 29 is rejected along the same lines as Claim 28 above and also see Col 7

Ln 64-66.

Claim Rejections - 35 USC § 103

42. Claim 12 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,064,764 to Bhaskaran et al.(hereinafter Bhaskaran) in view of U.S.

Patent 6,215,421 to Kondo et al.(hereinafter Kondo).

43. Regarding Claim 12, Bhaskaran does not disclose the media content being audio signal. However, Kondo discloses the media content having audio signal see Col 7 Ln 30-55. It would be obvious to one having ordinary skill in the art at the time of the invention to include the audio signal of Kondo in the invention of Bhaskaran in order for it to be used as a key as taught in Kondo see Col 7 Ln 45-49.

44. Claim 31-33, 38 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,215,421 to Kondo et al.(hereinafter Kondo) in view of U.S. Patent 6,064,764 to Bhaskaran et al.(hereinafter Bhaskaran).

45. Regarding Claim 31-33, Kondo does not disclose the fragile hash being used to compressed signal being used and embedding this in a second region. However, Bhaskaran discloses the use of fragile hash being used to compressed signal being used and embedding this in a second region see Col 6 Ln 41-58. It would be obvious to one having ordinary skill in the art at the time of the invention to include the use of fragile hash being used to compressed signal being used and embedding this in a second region in the invention of Kondo in order to see if the watermark has been tampered with as taught in Bhaskaran see Col 6 Ln 52-58.

46. Regarding Claim 38, Kondo discloses the dividing the signals into blocks(see

Fig.14 item S12), partitioning the signal into regions(see item S13). But Kondo

does not disclose the extracting compressed data, and comparing the

information of fragile hash. However, Bhaskaran discloses the extracting

compressed data, and comparing the information of fragile hash see Col 6 Ln 42-

58. It would be obvious to one having ordinary skill in the art at the time of the

invention to include the extracting compressed data, and comparing the

information of fragile hash in the invention of Kondo in order to provide for tamper

protection as taught in Bhaskaran see Col 6 Ln 52-58.

47. Claim 39 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent 6,064,764 to Bhaskaran et al.(hereinafter Bhaskaran) in view of U.S.

Patent Publication 2002/0001395 A1 to Davis et al.(hereinafter Davis)

48. Regarding Claim 39, Bhaskaran does not disclose the decompressing using

JPEG 2000 decompression process. However, Davis discloses the

decompressing using JPEG 2000 process see Par. 00198 & Par. 00196. It would

be obvious to one having ordinary skill in the art at the time of the invention to

include the decompressing using JPEG 2000 process in the invention of

Bhaskaran in order to use the latest compression scheme as taught in Davis Par.

00196.

Conclusion

49. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to

this final action is set to expire THREE MONTHS from the mailing date of this

action. In the event a first reply is filed within TWO MONTHS of the mailing date

of this final action and the advisory action is not mailed until after the end of the

THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee

pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire

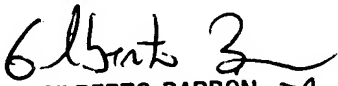later than SIX MONTHS from the mailing date of this final action.

50. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Venkatanarayanan Perungavoor whose

telephone number is 571-272-7213. The examiner can normally be reached on

8-4:30. If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The

fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

51. Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

Venkatanarayanan Perungavoor
Examiner
Art Unit 2132

VP
1/18/2006

GILBERTO BARRON JR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100